IN THE SPECIFICATION

REPLACEMENT SECTION, PAGE 2, BEGINNING LINE 16.

According to the invention, the object is accomplished by a method of this kind as mentioned in the introduction in that electric power is applied to the plasma charge acting upon the sputter target to be evaporated by means of at least two electrodes arranged in the vicinity of each other in the plasma reaction space, and where electric power is selected such that oxide layers to be precipitated on the substrate to be coated are deposited at a coating rate of > 4 nm/s ~~m/s~~, whereby during the coating process the substrate to be coated is arranged stationary in relation to the target material to be evaporated. A coating rate of > 40 nm m/min ~~nm/min~~ is proposed for substrates which during the coating process are to be moved in front of the sputter target as in so-called continuous systems. Metal oxide layers produced according to the method of the invention exhibit, surprisingly enough, several advantages vis-à-vis metal oxide layers produced by conventional sputtering. Thus it was found that TiO_2 layers produced according to the invention had a refractive index **n** between 2.55 and 2.60. Conventional DC technique only produced **n** values between 2.35 and 2.45. Metal oxide layers having a high **n** value advantageously allow a thinner metal oxide layer than one produced by conventional methods in order to achieve an effect dependent on the refractory value. In addition, thinner metal oxide layers have the advantage of high light transmission and color neutrality in the visible spectrum. Moreover, thin metal oxide layers can be produced more cost-effectively than conventional metal oxide layers.

REPLACEMENT SECTION, PAGE 6, STARTING AT LINE 16

A TiO_2 layer produced by means of a reactive sputter process with a coating rate of 21 nm m/min ~~nm/sec~~ as proposed according to the invention is shown in Figs. 3a and 3b. TiO_2 layer 14 (see Fig. 3b) has a thickness of about 500 nm and in comparison to the layer structure shown in Fig. 1b, exhibits only weakly defined and locally limited columnar TiO_2 microcrystallites. Surface 16 shown in Fig. 3a exhibits in places surface sites which have only a small depth of roughness. The crystalline composition of TiO_2 layer 14 shown in Figs. 3a, 3b, applied to a glass substrate, is evident in the Debye-Scherrer diagram (Fig. 4), which, beside the known anatase 101 structure (A_1), also shows the diffraction reflex R_1, which corresponds to the

Bragg reflection in a 110 grid net plane of a TiO_2 layer crystallized in a rutile structure. The rutile structure therein corresponds to the areas of low surface roughness appearing in Fig. 3a, while in contrast, the anatase 110 structure corresponds to the island formations appearing in Fig. 3a.

REPLACEMENT SECTION, PAGE 7, STARTING AT LINE 18

The substantial difference between reactive sputter process according to prior art and the proposed sputter process according to the invention follows from the comparison of the course of the respective characteristic curves of the cathode of a DC sputter process (see Fig. 9) and a AC sputter process (Fig. 10). Fig. 9 shows the characteristic curve of a high output cathode supplied with direct current, into which cathode a titanium target is integrated. What is shown is the total pressure in the sputter chamber as a function of the O_2 gas volume M flowing into the plasma reaction space. The p(M) curve exhibits a hysteresis loop between working points M_1 and M_2. Two sputter conditions for the DC cathode are possible in the transitional area between the points M_1 and M_2, i.e. a metallic one which will proceed along route $\underline{W_1}$ ~~W1,~~ and an oxide sputter condition which is present if following the hysteresis loop in the direction W_2. A cathode supplied with direct current uncontrollably jumps between the two modes in the transitional area between the points M_1 and M_2. Due to the broad transitional area of the hysteresis loop of the p(M) curve shown in Fig. 9, stable sputter conditions needed for high-quality metal oxide layers can only be achieved with the help of expensive process control devices. To achieve maximum sputter rates with a high output DC cathode, a value of the oxygen volume supply is sought in the M_1 area, for the selection of the sputter working point, where the metal oxide layers can be produced in the oxide mode.